

Cubro & Mahlet combine to offer the world's first Full-Stack Network Visibility solution for optical networks

Full-Stack Network Visibility & Security Solution

Introduction

Until now, no solution has offered ground up visibility across the entire protocol stack for IT/OT networks to support performance and security.

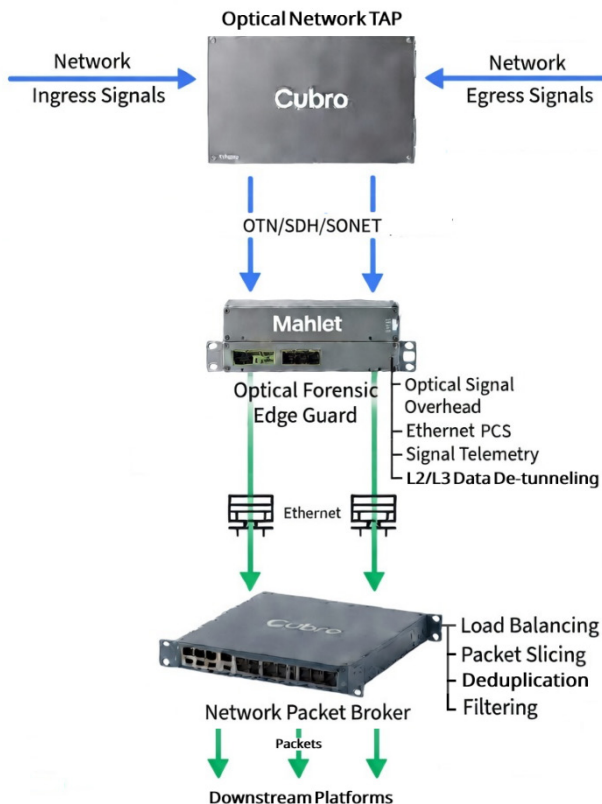
Cubro Network Visibility & Mahlet, Inc. joined forces to change this.

Mahlet's optical Layer 1 Forensic Edge Guard (L1FEguard™) delivers unmatched visibility and protection for the optical signals and data entering and exiting your network, enabling security to start at the very bottom of the protocol stack and build upward, just as it should.

L1FEguard™ continuously monitors optical telemetry and Layer 1 protocols (OTN, SDH/SONET, Ethernet PCS) for anomalies, covert data exfiltration or C2 channels, and network attack threats that bypass all traditional defenses.

It forwards IPFIX-style telemetry and Layer 1 signal flow metadata (OPFIX), de-tunnels higher layer protocols from within optical protocol overhead, and streams standard Ethernet out to follow-on systems for comprehensive visibility and monitoring of the entire protocol stack.

This strengthens your existing performance and security tools, unlocking 100% visibility and protection for your entire network.



Achieve Compliance

- ❖ NSM-10
- ❖ EO14028
- ❖ CISA BOD 23
- ❖ OMB M-22-09
- ❖ NIST SP 800-53
- ❖ NIST SP 800-82
- ❖ NIST SP 800-137
- ❖ NIST SP 800-207

Joint Components

- Cubro Optical Network TAP
- Mahlet Optical Forensic Edge Guard
- Cubro Network Packet Broker

Integrated Solution

1. Cubro's Optical Network TAP duplicates all OTN/SDH/SONET signals entering/exiting your network and sends them to Mahlet's Edge Guard.
2. Mahlet's Optical Forensic Edge Guard provides full visibility and security monitoring for optical signal overhead, Ethernet PCS layers, and signal telemetry. The Edge Guard then streams the underlying packet traffic from output ports.
3. Cubro's Network Packet Broker accepts the packet stream, enabling Layers 2-7 visibility and monitoring.

RESULT: 100% network visibility & security, from network infrastructure telemetry up to layer 7.

Joint Solution: Unprecedented Visibility for Critical Networks

Network visibility is the foundation of performance, resilience, reliability, and security both IT and OT environments. Yet significant blind spots persist, preventing organizations from achieving true insight into every bit entering, exiting, or traversing their networks.

Cubro, a leading manufacturer and global supplier of visibility products for IT/OT networks, and Mahlet, innovators in optical network cybersecurity, have partnered to close this critical gap. Together they deliver complete visibility across the entire protocol stack - from raw optical signal telemetry up to Layer 7.

A typical deployment follows a clean three-stage design:

1. Optical TAP Stage:

Cubro's proven Optical Network TAPs create a full, passive copy of all traffic from any point in the network (edge ingress/egress, critical transport segments, etc.) and deliver them to Mahlet's Optical Layer 1 Forensic Edge Guard (L1FEguard™).

2. Optical Infrastructure & Layer 1 Visibility Stage:

Mahlet's L1FEguard™ performs deep monitoring of optical signal telemetry and Layer 1 protocol overhead (OTN, SDH/SONET, and Ethernet PCS). It detects anomalies, covert data channels, and threats invisible to traditional tools, de-tunnels embedded higher layer traffic from the optical overhead, and forwards standard Ethernet streams to the next stage. In parallel, it sends real-time alerts and IPFIX-style Layer 1 visibility metadata directly to security and network monitoring tools.

3. Enriched Layer 2+ Visibility Stage:

Cubro's Network Packet Broker aggregates, deduplicates, filters, slices, and load-balances the traffic, delivering optimized packet streams and metadata to downstream security, performance, and analysis tools.

This integrated solution equips your SIEMs, NDR platforms, and performance tools with unprecedented visibility across the full protocol stack - from the physical optical layer through Layer 7.

By combining Cubro's industry-leading TAP and Packet Broker technology with Mahlet's groundbreaking Layer 1 monitoring, organizations finally gain complete network insight, stronger performance, and a resilient security posture unmatched by any other solutions.

Why Use Cubro TAPs and Packet Brokers with Mahlet's Edge Guard?

The *only* solution available for:

- Full implementation of Zero-Trust for network visibility & analytics.
- Merging optical physical infrastructure visibility with all layers of the protocol stack (OSI 1-7).
- Enabling unprecedented & unmatched Full-Stack Network Visibility for both IT and OT environments.

Technically elegant, unique solution that integrates seamlessly into existing architectures.

Enhanced implementation of a thoroughly proven, time-tested visibility architecture.

Directly enables full compliance with federal regulation and industry best practice.

Added protection against encryption subversion and Harvest Now, Decrypt Later attacks for a Post-Quantum Cryptography world.

Standard Full-Stack Network Visibility Deployment

A standard deployment for this solution is depicted, below.

The Cubro products involved in this example include:

- ✓ Layer 1 Optical Network TAP (OptoSlim LC TAP or OptoSlim MTP TAP)
- ✓ Network Packet Broker (Next Generation, Advanced, and Classic models for any use case)

The Mahlet products involved in this example include:

- ✓ Optical Layer 1 Forensic Edge Guard (L1FEguard™)

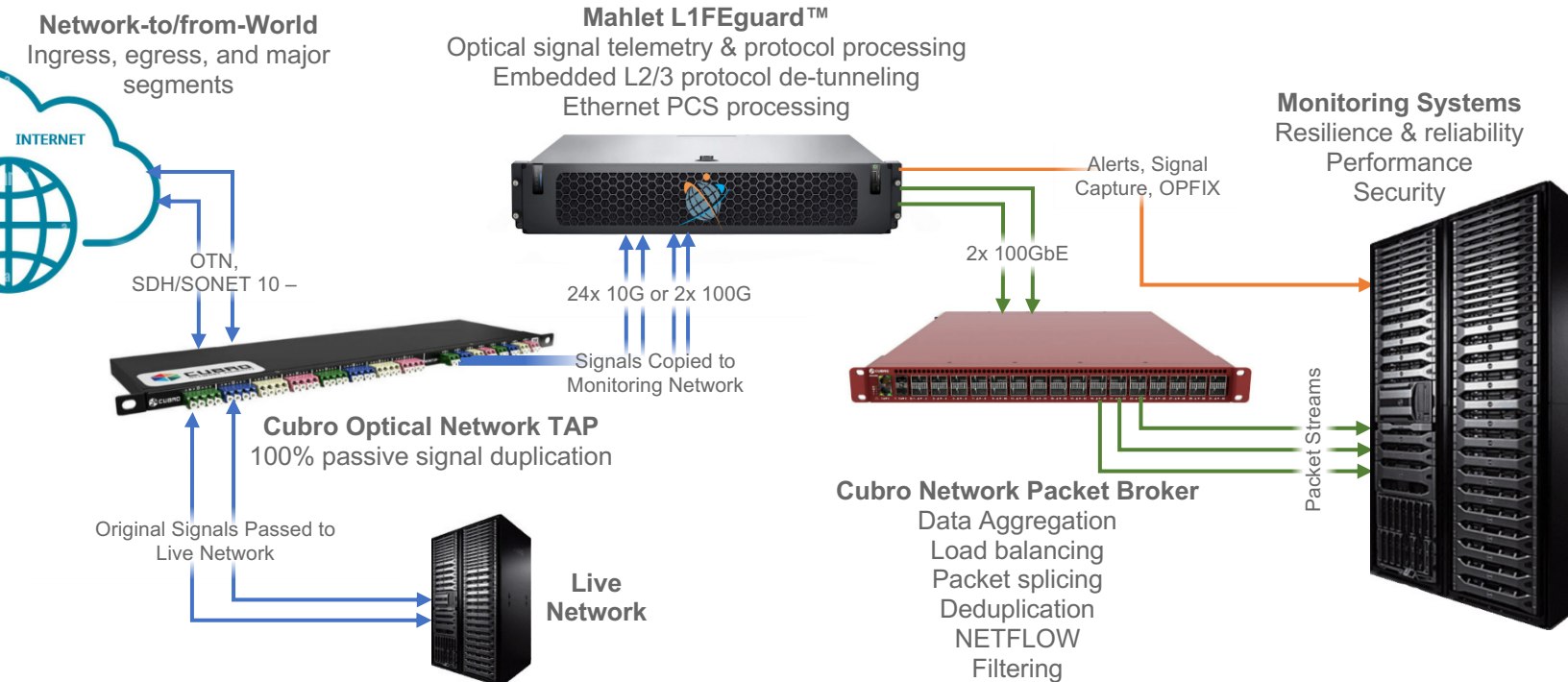
Additional Options for more advanced capabilities:

- ✓ EXA48800 Next Generation Network Packet Broker, ideally suited for advanced visibility and security use cases, covering up through Layer 7, while simplifying operations and enhancing monitoring efficiency.

Examples of downstream system and capability options (referenced, but not directly depicted):

- ✓ **Security:** SIEM, NDR, XDR, IDS/IPS, Threat Intelligence, SOAR
- ✓ **Performance:** NPM, APM, NTA, flow-based analytic and visualization platforms
- ✓ **Resilience & Reliability:** IT/OT observability, fault management and root-cause analysis, availability & uptime monitoring, and infrastructure redundancy platforms

We don't guess. We don't hallucinate. We provide 100% visibility at the speed modern networks demand.



For additional details and product-specific datasheets, please visit: www.cubro.com & www.mahlet.net



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